

REMARKS

Reconsideration of the above identified application in view of the preceding amendments and following remarks is respectfully requested. Claims 1-3 and 5-14 are pending in this application. By this Amendment, Claims 1, 10 and 13 have been amended.

In the Office Action, Claims 1, 2-3, 5 and 12 were rejected under 35 U.S.C. § 103 (a) over U.S. Patent No. 5,466,389 to Ilardi et al. in view of U.S. Patent No. 6,641,630 to Sun and further in view of U.S. Patent No. 6,458,289 to Merchant et al.

Ilardi et al. discloses alkaline cleaning compositions that require aqueous metal ion free bases, a nonionic surfactant and a component to control pH within a range of about pH 8 to pH 10 (col. 2, lines 29-37). The goal of Ilardi et al. is to clean without etching (col. 1, lines 10-11). Thus, the Examiner's assertion that Ilardi et al. teaches exposing a substrate to an etching bath is incorrect.

Sun is directed to chemical-mechanical polishing (CMP) that includes an abrasive, a polishing pad, iodine, an iodine vapor-trapping agent and a liquid carrier. To polish a substrate, the CMP system laps or rubs the substrate to abrade the substrate.

Merchant et al. discloses another CMP process using a slurry to remove metal from a substrate. Merchant et al. notes that the removed metal particles will cause subsequent damage to the substrate surface as lapping continues. Thus, a constant flow of new slurry was required. To overcome this drawback, Merchant et al. recycles by collecting the used slurry, removing the metal particles and recirculating the cleaned slurry.

In order to establish a *prima facie* showing of obviousness, the Examiner must show that there is some motivation provided by the cited references or by the state of the

art at the time the instant application was filed, that would cause one of ordinary skill in the art to modify the structures and methods disclosed in the references to arrive at the claimed invention. It is not sufficient that one of ordinary skill in the art *could* modify the teachings of the references. The motivation must be such that one of ordinary skill in the art *should* modify the teachings of the references.

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* showing of obviousness. The Examiner has not cited any passage from Ilardi et al., Sun or Merchant et al. that provides the requisite motivation to modify the teachings to arrive at the claimed invention. In fact, no such motivation exists because neither the polishing of Sun and Merchant et al. nor the cleaning of Ilardi et al. is etching as recited in the subject claims. To further illustrate the significant distinctions between these processes, note that the subject specification indicates that etching is used to eliminate the surface damage of post-lapped, *i.e.*, polished, surfaces (see page 1, lines 12-15). One simply would not logically look to polishing slurries to form the composition of an etching bath. With such irrelevant references, the combination cannot be proper.

Further, the requisite motivation cannot exist because the proposed modifications would render the teachings of Ilardi et al. unsatisfactory for its intended purpose. See M.P.E.P. section 2143.01 (V). Namely, Ilardi et al. has a central purpose of cleaning without etching as noted above. To reformulate the composition to etch, clearly results in an improper, substantial reconstruction and redesign of Ilardi et al. because the central purpose of avoiding etching would be gone. See M.P.E.P. section 2143.01 (VI). Consequently, the proposed combination cannot be proper and the Examiner has failed to establish a *prima facie* showing of obviousness.

Further, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. See M.P.E.P. section 2143.03. In particular, none of the references teach or suggest exposing the substrate to an etching bath and etching the substrate in the etching bath as recited in limitations (b) and (f) of amended Claim 1. Although Ilardi et al. is cited by the Examiner for this teaching, the applicant's representative asserts that no such teaching is present and requests it be clearly identified in the event that the rejections are maintained. Further, Merchant et al. simply collect the slurry, clean it and recirculate it. There is no teaching or suggestion to remove a portion, expose the portion to an additive and return the exposed portion as recited in limitations (c), (d) and (e) of amended Claims 1 and 10. If Merchant et al. only recycled a portion, lots of metal particles would remain in the slurry to damage the substrate surface. Given this effect, the Examiner's rationale for his combination, namely that you want to produce a freshly-mixed solution, is not present in the cited references. Thus, the rationale is inadequate and from this it follows that the cited combination as improper.

In view of the above, Claim 1 and each of the claims depending therefrom are not rendered obvious by the combination of references cited by the Examiner and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

In the Office Action, Claims 6-8, 13 and 14 were rejected under 35 U.S.C. § 103 (a) over Ilardi et al. in view of Sun and Merchant et al. and further in view of U.S. Patent No. 5,714,407 to Maeno et al.

It is respectfully submitted that Maeno et al. does not overcome the deficiencies of the combination of Ilardi et al., Sun and Merchant et al. as noted above with respect to Claim 1. Accordingly, Claims 6-8, 13 and 14, by virtue of their dependency on Claim 1,

are not rendered obvious by the combination of references cited by the Examiner and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

In the Office Action, Claim 9 was rejected under 35 U.S.C. § 103 (a) over Ilardi et al. in view of Sun and Merchant et al. and further in view of U.S. Patent No. 6,431,186 to Morita et al.

It is respectfully submitted that Morita et al. does not overcome the deficiencies of the combination of Ilardi et al., Sun and Merchant et al. as noted above with respect to Claim 1. Accordingly, Claim 9, by virtue of its dependency on Claim 1, is not rendered obvious by the combination of references cited by the Examiner and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

In the Office Action, Claim 10 was rejected under 35 U.S.C. § 103 (a) over Ilardi et al. in view of Merchant et al.

As noted above, the combination of Ilardi et al. and Merchant et al. is not proper. Accordingly, Claim 10 is not rendered obvious for at least the reasons noted above and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

In the Office Action, Claim 11 was rejected under 35 U.S.C. § 103 (a) over Ilardi et al. in view of Sun and Merchant et al. and further in view of U.S. Patent Publication No. 2001/0044264 to Lack et al.

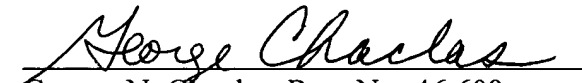
It is respectfully submitted that Lack et al. does not overcome the deficiencies of the combination of Ilardi et al., Sun and Merchant et al. as noted above with respect to Claim 1. Accordingly, Claim 11, by virtue of its dependency on Claim 1, is not rendered obvious by the combination of references cited by the Examiner and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

Any additional fees or overpayments due as a result of filing the present paper may be applied to Deposit Account No. 04-1105. It is respectfully submitted that all of the claims now in this application, namely Claim 1-3 and 5-14, are in condition for allowance, and such action is earnestly solicited.

If after reviewing this amendment, the Examiner believes that a telephone interview would facilitate the resolution of any remaining matters the undersigned attorney may be contacted at the number set forth herein below.

Respectfully submitted,

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